

Abstract of the Disclosure:

A distance measuring method simultaneously measures a distance
5 between a distance measurement system (10A) and a measurement object (M),
and a relative speed therebetween. In the method, the distance measurement
system sends an electromagnetic wave toward the measurement object as a
traveling wave while changing a frequency thereof. The measurement object
reflects the traveling wave to produce a reflected wave. The traveling wave
10 and the reflected wave interfere with each other to produce a standing wave.
The distance measurement system detects the amplitude of the standing wave
and produces an amplitude signal representing the amplitude of the standing
wave. Based on the produced amplitude signal, the distance measuring
system derives the distance and the relative speed between the distance
15 measurement system and the measurement object.